

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-9. (Canceled)

10. (Currently Amended) A system for determining the position of a tire on a vehicle using a periodically transmitted signal, the system comprising:

a transmitter circuit associated with the tire configured to transmit a plurality of signal pulses in a time the associated tire completes approximately one rotation;

a receiver circuit configured to receive the plurality of signal pulses;

a memory configured to store a plurality of predetermined signal patterns, each predetermined signal pattern associated with a unique tire position on the vehicle; and

a processing circuit configured to:

periodically restart a timing of the receiver circuit upon receipt of at least one of the plurality of signal pulses to synchronize a timing of the transmitter circuit with the timing of the receiver circuit, and

compare a signal pattern of the plurality of signal pulses to at least one of the predetermined signal patterns, and to determine the position of the tire on the vehicle based on a comparison.

11. (Original) The system of claim 10, wherein the receiver circuit is configured to determine the time of transmission for the plurality of signal pulses.

12. (Original) The system of claim 11, wherein the time of transmission is determined by synchronizing the transmitter circuit and receiver circuit.

13. (Original) The system of claim 12, wherein the receiver circuit is configured to synchronize with the transmitter circuit using a hardware comparator.

14. (Original) The system of claim 12, wherein the processing circuit is configured to perform synchronization based on the application of a low-pass filter applied to an oversampled signal.

15. (Original) The system of claim 10, wherein the receiver circuit is configured to compare a plurality of characteristics of the plurality of signal pulses with a corresponding plurality of characteristics of a predetermined signal pattern.

16. (Original) The system of claim 10, wherein the plurality of pulsed signals includes at least 10 pulsed signals in the time the tire completes the approximately one rotation.

17. (Original) The system of claim 10, wherein the processor circuit is configured to determine if the tire has changed position on the vehicle based on the comparison of the plurality of pulsed signals to the predetermined signal patterns.

18. (Currently Amended) A system for determining the position of a tire on a vehicle using a plurality of signal pulses, the system comprising:

a memory configured to store a plurality of predetermined signal patterns, each predetermined signal pattern associated with a unique tire position on the vehicle; and

a circuit configured to:

periodically restart a timing of the circuit upon receipt of at least one of the plurality of signal pulses to synchronize a timing of the circuit with a timing of a transmitter,

determine times of transmission of the plurality of signal pulses,

[[to]] detect the plurality of signals at approximately the determined times,

[[to]] compare the plurality of signal pulses to at least one of the predetermined signal patterns, and

[[to]] determine the position of the tire on the vehicle based on the comparison.

19. (Currently Amended) The system of claim 18, wherein the times of transmission are determined by synchronizing the circuit with [[a]] the transmitter.

20. (Original) The system of claim 19, wherein the processing circuit is configured to perform synchronization using a hardware comparator.

21. (Original) The system of claim 19, wherein the processing circuit is configured to perform synchronization based on the application of a low-pass filter applied to an oversampled signal.

22. (Original) The system of claim 18, wherein the processing circuit is configured to compare a plurality of characteristics of the plurality of signal pulses with a corresponding plurality of characteristics of a predetermined signal pattern.

23. (Original) The system of claim 18, wherein the plurality of pulsed signals includes at least 10 pulsed signals transmitted in the time the tire completes approximately one rotation.

24. (Original) The system of claim 18, wherein the processor circuit is configured to determine if the tire has changed position on the vehicle based on the comparison of the plurality of pulsed signals to the predetermined signal patterns.

25-28. (Canceled)